







FIGURE 2

ATGATTAGTCTTCTATCCGAATTTGATAGTCATTTGGTAGGAGTGGCTGTTTTTGCTGAAA ATGCTAAAGAAGAACGTGAACAGATGGCATATAAATCATTGCTTAAAGTTTCTGAAATAG ATGTCAAGAACAATAAAGTCGTCGTTGAAGTTGGGAATATTTTTAACGATATAATGTAT GGAGAGAAAAAGGGAATATTATGGAATTCGAAAAACACAAAATCTAATCAGATTAAAACA ACACTTGCTTTAACGTCAACACTCGCACTTCTTGGAACTGGTGTTGGTATGGGACATACCG TTAATGCGGATGACATGACAACTGCTGATCAATCACCTAAATTACAAGGTGAAGAAGC <u>AACATTGGCGCCTAC</u>AAACATTGAAGATACTAAAGCAGCCATTGATATTAAAACAGCTAC ATTAGCAGAACAAACCGATGCTCTTAATACTGTAAATGAGACAATCACAAGCACAAATGA AGAATTAGCTACTTTAGAAGGAGGCTTAGCTGATAAAGAAACAGCAGTTGCAGATGCTGA AAAAACATTGGAGTCTGTTTCAAATGCCTCAGAAGAAGAATTTAATCAATTAGCAGAACA AAATAAAGCTGACTTAGCTAAAACTCAAGAGGAGCTAAAACTTGCTGAAGCAACAAAAG AAGAAGTTGCAACACAGGTATTGACACAATCTGACGAGGTAACAGCTGCAGCTAATGAAG CTAAAAAAATGGCTGAAAAAGTTGCACAAGCAGAGACAAAAGTTTCAGACTTGACGAAA ATGGTCAATCAACCAGAAGCAATAACAGCTCAAGTTGAAATAGAACAAAACAATGTCAA AATCATTTCGGAAGATTTAGCAAAAGCCAAAACTGATTTAGTTGCTGTAACAGATAATAC TGAATTAGCTAAAGTACAGTCACAAACAAGTAATGTCGCAGTGAATGTTATGGGTGCTAA TAAAATGGTTGCTCCAACTAATTACCCAATTAATGAAATCAAAAAATTAATGTCAAGTGG TTACATTGGGACACAATCTTATCTAAATACATTCTATGCTTTAAAAAGATCAACTGGTTTCT AAAGCAGAAGTTGGGGCATACTTAAATCATTACGTTGATATCGCAAGTGACTTAAACCGT ATCGTTAACCCAGATAACTTATCAGTTGAGGTTCAAAATGAATTGGCTGTATTTGCAGCAA CATTGATTAATTCTGTCGTCAACAATTTGGTCTTTCTGCAGTCGAAGTGACGCAAGGTGC TCAAGAGTTTGCTCGCACTTTGACTCGAAACTATAAAGTAACACATGGAAACACTGTTCCT TTCTTTAATTACAATCAACCTGGCAAGAATGGTCATATAGGCATTGGTCCACACGATAGAA AAAACATCGGATTCTTTGATGATGTTCATACTGTTAATGGTATCAAACGTAGTATTTATAA CAGTATTAAGTACATGCTGTTTACAGACTTCACCTATGGAAATACATTTGGACATACGGTT AACTTGTTGCGTTCTGATAAAACAAACCCAAGTGCTCCGGTCTATTTAGGAGTTTCAACAG CAGCCAATTCAGCAAACAAGTGGTTTCAGGTCCATTAACAACAGTTGATAACAGTGCTAA AATTAGCACTCTTCAAGCAAGTATTACTTCTGTTGAGTCTAAAATTCAAACCTTACAAAAA CGTATTGCAAATATTTCTTCAGAAGCACTAGTTGTCTCTGCACAGAGAAAAGTAGATGGTT TAGCTGCAAAAACTTCAAAAAGCTGAATCTAACGTTGAAAAAGCAAAAGCTCAACTTCAAC AGTTACAAGATTCAAAAGAAGATTTACATAAACAACTTGCTTTTTCCCTTTCAACTCGTAA GGATTTAAAAGGTCAACTTGACGAATCGCTTGTTCACCTAAATCAGTCTAAAATTCTTTTA CATAGCTTAGAAGAAAAACAAAGTCAAGTGGCAAGTCAAATTAACGTCTTGACATTGAAG AAGGCACAACTTGAAAAAGAACTAGCCTTTAACTCTCATCCAAATCGTGAAAAAGTTGCA AAAGAAAAGTTGAAGAGGCTCAAAAAGCATTAACAGAAACCTTATCTCAAATTAAAACT AAAAAAGCTATCTTAAATGATTTAACACAAGAAAAAGCAAAATTGACGTCAGCAATCACA ACAACTGAACAACAAATTGTTTTGTTGAAGAATCATTTAGCAAATCAAGTGGCGAATGCT CCAAAAATCAGCAGTATTGTCCAAAGATCAGAAAACAATAGAGTAAGACCTGATGTTTCT AACAATGGCTGAAGAAGTCATTACAAATTCTGCAAAAGCCATTGTTGCAAAATGCTCAAAA TGTTGCACAAGAGATTATGAAAGTAGCACCTGAAGTAACACCTGATCAAGGAGTTGTTGC AAAAGTTGCAGATAATATTAAGAAAAATAATGCCCCAGCAAGTAAATCATATGGTGCAAG TTCATCAACGGTAGGAAATGCTACTTCTTCACGAGATGAAAGTACAAAACGTGCTTTAAG AGCAGGAATTGTTATGCTGGCAGCAGCAGGACTTACTGGTTACAAACTCAGAAGAGATGG CAAAAAATAAGAAAATCAAAGGAAAAATTGATTGACAGAAAGTACCGTCTATGTTACTAT AGTAGACGGTACTTTTTACTTTTGGTCTCTCAAAAGTGTACAGAGACGTGCTGACAATTGT TGCAAAAGTACACACAGATATAGGCTGTCACCAAGTGCTATATCAACCAAAAATAAAAAA ATACAGGAGAATGTAGATGCCTACAATTAAC

LVFYPNLIVIWEWLFLLKMLKKNVNRWHINHCLKFLKMSRTIKSSLKLGIFLTIYNVW REKGNIMEFENTKSNQIKTTLALTSTLALLGTGVGMGHTVNADDMTTADQSPKLQ GEEATLAPTNIEDTKAAIDIKTATLAEQTDALNTVNETITSTNEELATLEGGLADKET AVADAEKTLESVSNASEEEFNQLAEQNKADLAKTQEELKLAEATKEEVATQVLTQS DEVTAAANEAKKMAEKVAQAETKVSDLTKMVNQPEAITAQVEIEQNNVKIISEDLA KAKTDLVAVTDNTKTQLANDLATAQSSLSAKQNELAKVQSQTSNVAVNVMGANK MVAPTNYPINEIKKLMSSGYIGTQSYLNTFYALKDQLVSKAEVGAYLNHYVDIASDL NRIVNPDNLSVEVQNELAVFAATLINSVRQQFGLSAVEVTQGAQEFARTLTRNYKVT HGNTVPFFNYNQPGKNGHIGIGPHDRTIIEQAATSVGLKANDDNMYENIGFFDDVHT VNGIKRSIYNSIKYMLFTDFTYGNTFGHTVNLLRSDKTNPSAPVYLGVSTETVGGLNT HYVIFPASNIVNASQFSKQVVSGPLTTVDNSAKISTLQASITSVESKIQTLQKRIANISSE ALVVSAORKVDGLAAKLOKAESNVEKAKAQLQQLQDSKEDLHKQLAFSLSTRKDL KGOLDESLVHLNOSKILLHSLEEKOSOVASQINVLTLKKAQLEKELAFNSHPNREKV AKEKVEEAQKALTETLSQIKTKKAILNDLTQEKAKLTSAITTTEQQIVLLKNHLANQV ANAPKISSIVORSENNRVRPDVSDTREKAVDTAQEATILAQAETMAEEVITNSAKAIV ANAQNVAQEIMKVAPEVTPDQGVVAKVADNIKKNNAPASKSYGASSSTVGNATSSR DESTKRALRAGIVMLAAAGLTGYKLRRDGKK-ENQRKN-LTESTVYVTIVDGTFYFW SLKSVQRRADNCCKSTHRYRLSPSAISTKNKKIQENVDAYN

FIGURE 4

GTCATTTGGTAGGAGTGGCTGTTTTTGCTGAAAATGCTAAAGAAGAACGTGAACAGATGG CATATAAATCATTGCTTAAAGTTTCTGAAATAGATGTCAAGAACAATAAAGTCGTCGTTGA AGTTGGGAATATTTTAACGATATATAATGTATGGAGAGAAAAAGGGAATATT**ATG**GAAC TCGAAAACACAAAATCTAATCAGATTAAAACAACACTTGCTTTAACGTCAACACTCGCAC ATCAATCACCTAAATTACAAGGTGAAGAAGCAAACATTGGCGCCTACAAACATTGAAGA TACTAAAGCAGCCATTGATACTAAAACAGCTACATTAGCAGAACAAACCGATGCTCTTAA TACTGTAAATGAGACAATCACAAGCACAAATGAAGAATTAGCTACTTTAGAAGGAGGCTT AGCTGATAAAGAAACAGCAGTTGCAGATGCTGAAAAAACATTGGAGTCTGTTTCAAATGC CTCAGAAGAAGAATTTAATCAATTAGCAGAACAAAATAAAGCTGACTTAGCTAAAACTCA AGAGGAGCTAAAACTTGCTGAAGCAACAAAAGAAGAAGATTGCAACACAGGTATTGACAC AATCTGACGAGGTAACAGCTGCAGCTAATGAAGCTAAAAAAATGGCTGAAAAAAGTTGCA AGCTCAAGTTGAAATAGAACAAAACAATGTCAAAATCATTTCGGAAGATTTAGCAAAAGC CAAAACTGATTTAGTTGCTGTAACAGATAATACAAAAACACAATTAGCAAATGATTTAGC GACTGCTCAATCTAGCTTAAGTGCCAAACAAAATGAATTAGCTAAAGTACAGTCACAAAC AAGTAATGTCGCAGTGAATGTTATGGGTGCTAATAAAATGGTTGCTCCAACTAATTACCCA ATTAATGAAATCAAAAAATTAATGTCAAGTGGTTACATTGGGACACAATCTTATCTAAAT ACATTCTATGCTTTAAAAGATCAACTGGTTTCTAAAGCAGAAGTTGGGGCATACTTAAATC ATTACGTTGATATCGCAAGTGACTTAAACCGTATCGTTAACCCAGATAACTTATCAGTTGA GGTTCAAAATGAATTGGCTGTATTTGCAGCAACATTGATTAATTCTGTTCGTCAGCAATTT GGTCTTTCTGCAGTCGAAGTGACGCAAGGTGCTCAAGAGTTTGCTCGCACTTTGACTCAAA ACTATAAAGCAACACATGGAAACACTGTTCCTTTCTTTAATTACAATCAACCTGGCAAGAA TGGTCATATAGGCATTGGTCCACACGATAGAACAATTATCGAACAAGCAGCTACAAGTGT TGGCTTAAAAGCTAATGATAACATGTATGAAAACATCGGATTCTTTGATGATGTTCAT ACTGTTAATGGTATCAAACGTAGTATTTATAACAGTATTAAGTACATGCTGTTTACAGACC AAGTGCTCCGGTCTATTTAGGAGTTTCAACAGAAACTGTTGGTGGTTTAAATACCCACTAT GTTATCTTCCCGGCAAGCAATATTGTAAATGCCAGCCAGTTCAGCAAACAAGTGGTTTCAG TGTTGAGTCTAAAATTCAAACCTTACAAAAACGTATTGCAAATATTTCTTCAGAAGCACTA GTTATCTCTGCACAGAGAAAAGTAGATGGTTTAGCTGCAAAAACTTCAAAAAAGCTGAATCT AACGTTGAAAAAGCAAAAGCTCAACTTCAACAGTTAAAAGATTCAAAAGAAGATTTACAT AAACAACTTGCTTTTGCCCTTTCAACTCGTAAGGATTTAAAAGGTCAACTTGACGAATCGC TTGTTCACCTAAATCAGTCTAAAATTCTTTTTCATAGCTTAGAAGAAAAACAAAGTCAAGT GGCAAGTCAAATTAACGTCTTGACATTGAAGAAGGCACAACTTGAAAAAGAACTAGCCTT TAACTCTCATCCAAATCGTGAAAAAGTTGCAAAAGAAAAAGTTGAAGAGGCTCAAAAAG CATTAACAGAAACCTTATCTCAAATTAAAACTAAAAAAGCTATCTTAAATGATTTAACAC AAGAAAAAGCAAAATTGACGTCAGCAATCACAACAACTGAACAACAAATTGTTTTGTTGA AGAATCATTTAGCAAATCAAGTGGCGAATGCTCCAAAAATCAGCAGTATTGTCCAAAGAT CAGAAAACAATGGAGTAAGACCTGATGTTTCTGATACAAGAGAGAAGGCAGTAGATACT GCTCAAGAAGCGACAATTCTTGCTCAAGCAGAAACAATGGCTGAAGAAGTCATTACAAAT TCTGCAAAAGCCATTGTTGCAAAATGCTCAAAATGTTGCACAAGAGATTATGAAAGTAGCA CCTGAAGTAACACCTGATCAAGGAGTTGTTGCAAAAGTTGCAGATAATATTAAGAAAAAT AATGCCCCAGCAAGTAAATCATATGGTGCAAGTTCATCAACTGTAGGAAATGCTACTTCTT CACGAGATGAAAGTACAAAACGTGCTTTAAGAGCAGGAATTGTTATGCTGGCAGCAGCAG GACTTACTGGTTACAAACTCAGAAGAGATGGCAAAAAATAAGAAAATCAAAGGAAAAAT TGATTGACAGAAAGTACCGTCTATGTTACTATAGTAGACGGTACTTTTTACTTTTGGTCTCT CAAAAGTGTACAGAGACGTGCTGACAATTGTTGCAAAAGTACACACAGATATAGGCTGTC ACCAAGTGCTATATCAACCA

 $Val I le Trp {\tt ***GluTrpLeuPheLeuLeuLysMetLeuLysLysAsnValAsnArgTrp}$ HislleAsnHisCysLeuLysPheLeuLys***MetSerArgThrIleLysSerSerLeu LysLeuGlyIlePheLeuThrIleTyrAsnValTrpArgGluLysGlyAsnIle MetGluLysGlyAsnIle MetGlyAsnIle MetGlyAsnIle MetGlyAsnIle MetGlyAsnIle MetGlyAsLeu Glu Asn Thr Lys Ser Asn Gln II e Lys Thr Thr Leu Ala Leu Thr Ser Thr $Leu Leu Gly Thr Gly Val Gly Met Gly His Thr Val Asn Ala \underline{Asp Asp Met Thr Thr Ala}{}$ AspGlnSerProLysLeuGlnGlyGluGluAlaThrLeuAlaProThrAsnIleGluAsp ThrLysAlaAlaIleAspThrLysThrAlaThrLeuAlaGluGlnThrAspAlaLeuAsn A la Asp Lys Glu Thr Ala Val Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala Glu Lys Thr Leu Glu Ser Val Ser Asn Ala Ala Asp Ala AspSer Glu Glu Glu Phe Asn Gln Leu Ala Glu Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Ala Asp Leu Ala Lys Thr Gln Asn Lys Asp Leu Ala Lys Thr Gln Asp Leu Asp Leu Ala Lys Thr Gln Asp Leu Ala Lys Thr Gln AspGluGluLeuLysLeuAlaGluAlaThrLysGluGluValAlaThrGlnValLeuThrGlnSer Asp GluVal Thr Ala Ala Ala Asn Glu Ala Lys Lys Met Ala Glu Lys Val Ala Gln Lys Lys Met Ala Glu Lys Val Ala Gln Lys Val Ala Glu Lys Val AA la Glu Thr Lys Val Ser Asp Leu Thr Lys Met Val Asn Gln Pro Glu Ala II e Thr Ala and Glu Ala Ala Ala and Glu AlaGlnValGluIleGluGlnAsnAsnValLysIleIleSerGluAspLeuAlaLysAlaLysThr Asp Leu Val Ala Val Thr Asp Asn Thr Lys Thr Gln Leu Ala Asn Asp Leu Ala Thr Asp Leu Ala Thr Control of the Control of thA la Gln Ser Ser Leu Ser Ala Lys Gln Asn Glu Leu Ala Lys Val Gln Ser Gln Thr Ser Ala Gln Ser Gln Thr Ser Gln ThrAs nValAlaValAs nValMetGlyAlaAs nLysMetValAlaProThrAs nTyrProIle $AsnGluIleLysLysLeuMetSer \acute{S}erGlyTyr \acute{I}leGlyThrGlnSerTyrLeu \acute{A}snThr$ PheTyrAlaLeuLysAspGlnLeuValSerLysAlaGluValGlyAlaTyrLeuAsnHis TyrVal Asp IleAla Ser Asp Leu Asn Arg IleVal Asn Pro Asp Asn Leu Ser Val Gluur Ger Val Grand GVal Gln Asn Glu Leu Ala Val Phe Ala Ala Thr Leu Ile Asn Ser Val Arg Gln Gln Phe Gln Gln Control of the ControGly Leu Ser Ala Val Glu Val Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala Gln Glu Phe Ala Arg Thr Leu Thr Gln Gly Ala GlyAsn Tyr Lys Ala Thr His Gly Asn Thr Val Pro Phe Phe Asn Tyr Asn Gln Pro Gly LysAspLeuThrTyrGlyAsnThrPheGlyHisThrValAsnLeuLeuArgSerAspLysThr Asn Pro Ser Ala Pro Val Tyr Leu Gly Val Ser Thr Glu Thr Val Gly Gly Leu Asn Thr Gly Gly Leu Asn Thr Gly Gly Control of the CHis Tyr Vallle Phe Pro Ala Ser Asn Ile Val Asn Ala Ser Gln Phe Ser Lys Gln Valler (Ala Ser Gln Phe SVal Ser Gly Pro Leu Thr Thr Val Asp Asn Ser Ala Lys I le Ser Thr Leu Gln Ala Ser Thr Leu GIle Ala Ser Val Glu Ser Lys Ile Gln Thr Leu Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Ala Asn Ile Ser Manne Gln Lys Arg Ile Asn Ile Manne Gln Lys Arg Ile Asn Ile Manne Gln Lys AsGluAlaLeuVallleSerAlaGlnArgLysValAspGlyLeuAlaAlaLysLeuGlnLysAspGluSerLeuVal His Leu AsnGlnSerLys I le LeuPhe His SerLeuGluGluLysAlaGlnLysAlaLeuThrGluThrLeuSerGlnIleLysThrLysLysAlaIleLeuAsnVal Leu Leu Lys Asn His Leu Ala Asn Gln Val Ala Asn Ala Pro Lys Ile Ser Ser Ile Ala Asn Ala Asn Ala Pro Lys Ile Ser Ser Ile Ala Asn AlaVal Gln Arg Ser Glu Asn Asn Gly Val Arg Pro Asp Val Ser Asp Thr Arg Glu Lys Alamonton Global Global Grand Global GlobalVal Asp Thr Ala Gln Glu Ala Thr Ile Leu Ala Gln Ala Glu Thr Met Ala Glu Glu Valance and the following the following properties of the followLysValAlaProGluValThrProAspGlnGlyValValAlaLysValAlaAspAsnIle LysLysAsnAsnAla ProAla SerLysSerTyrGlyAla SerSerSerThr ValGlyAsnAla Thr Ser Ser Arg Asp Glu Ser Thr Lys Arg Ala Leu Arg Ala Gly I le Val Met A $ArgLysAsn^{***}LeuThrGluSerThrValTyrValThrIleValAspGlyThrPheTyr$ Tyr Arg Leu Ser Pro Ser Ala II e Ser Thr